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## **EXHIBIT 5**

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IN THE UNITED STATES DISTRICT  
COURT FOR THE WESTERN DISTRICT  
OF TEXAS WACO DIVISION

THE TRUSTEES OF  
PURDUE UNIVERSITY,

Plaintiff,

v.

STMICROELECTRONICS N.V. and  
STMICROELECTRONICS, INC.,

Defendants.

Civil Action No. 6:21-cv-00727-ADA

JURY TRIAL DEMAND

**Expert Report of Teresa Stanek Rea Regarding**  
**U.S. Patent No. 7,498,633**



Teresa Stanek Rea  
July 14, 2023

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## **I. INTRODUCTION**

1. I have been engaged by counsel for Plaintiff The Trustees of Purdue University (“Purdue”) to provide opinions regarding the inequitable conduct allegations asserted by Defendants STMicroelectronics, Inc. and ST Microelectronics N.V. (“ST”) in this case with regard to U.S. Patent No. 7,498,633 (“’633 Patent” or “Asserted Patent”).

2. In particular, I have been asked to opine on the “intent to deceive” prong of inequitable conduct. While “intent” is within the purview of the fact finder, I provide my opinions based on the evidence currently in the record. I have also been asked to opine on the duties of candor, good faith, and disclosure as set forth in 37 C.F.R. §1.56, which may intersect with the inequitable conduct analysis. In conjunction with my opinions on these two issues, I offer expert testimony with regard to the rules, practices, and procedures for examination of patent applications by the U.S. Patent and Trademark Office (“USPTO”) and compliance with those rules, practices, and procedures during the examination of the patent asserted in this case.

3. My analysis is limited however by the fact that ST has not provided an expert report on inequitable conduct, despite representations during discovery that such a report would be forthcoming. Rather, I understand that ST has taken the position that no such individual report is necessary and instead, has had its technical expert, Dr. Lori Lipkin, opine on the but-for materiality of three prior art references and on statements made during prosecution. Accordingly, I do not provide an opinion on the but-for materiality prong of inequitable conduct. My understanding is that Purdue’s technical expert Dr. Stanley Shanfield will respond to Dr. Lipkin’s technical opinions directly.

4. I will note that this is the first instance I have encountered—over a decade of serving as an expert on the issue of inequitable conduct—in which a party alleging inequitable conduct has not served a report by a person qualified to render opinions regarding inequitable

- The so-called “Island Art” which Dr. Lipkin uses to describe the collection of the 2003 Book, U.S. Patent No. 5,877,044 (“Neilson”), “Low-Voltage MOSFET with Small on-Resistance: an Extended Characterization in High-Efficiency Power Converter Applications,” Conference Record of the 2001 IEEE Industry Applications Conference. 36th IAS Annual Meeting (Cat. No.01CH37248), 2001, pp. 635-640 vol.1 (“Belverde”), ST Application Note AN1506 (“AN1506”), ST system art AD6A, and U.S. Pat. No. 6,043,532 (“Depetro”).

*Id.* at ¶¶ 154, 264, 276, 325, 361, and 417.

78. While I do not address the materiality prong in this report, I note that Dr. Lipkin does not offer any opinion on the materiality or relevance of nearly all of the prior art references identified in ST’s Answer. Dr. Lipkin does not opine that Dr. Cooper’s “Status and Prospects” paper was material and/or not cumulative. Dr. Lipkin does not opine that either of the Martin papers is material and/or non-cumulative—she does not mention those papers at all. Dr. Lipkin does not opine that the Baliga book “Modern Power Devices” or the Khan publication are material and/or non-cumulative. This is important because inequitable conduct, which is a form of fraud, must be plead with particularity in accordance with Rule 9.

## VII. OPINIONS

### A. An Intent to Deceive is Not the Single Most Reasonable Inference

79. Under the current record, it would be reasonable for the fact finder to conclude that there was no intent to deceive the USPTO. That is, any conclusion that the intent to deceive was not the single most reasonable inference would be consistent with the evidentiary record. As a threshold point, there is no evidence that Dr. Cooper or any of the prosecuting attorneys specifically intended to deceive the USPTO. There is no “smoking gun” document, communication, or statement demonstrating a nefarious plan to deceive the USPTO. To the contrary, Dr. Cooper unequivocally testified that at no point during prosecution of the ’633 Patent

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a basis for inequitable conduct.

did he intend to deceive the USPTO (or anyone else for that matter). *See* Cooper Dep. Tr. at 309:18-25 (“Q: Have you at any point in time, during prosecution of this patent or any other patent intended to deceive the Patent and Trademark Office” A: No, I have not.”).

80. Likewise, Dr. Cooper testified that he would have provided any and all materials in accordance with any instructions provided by prosecution counsel. *See id.* at 142:18-25 (“Q: Would it have been a standard practice for you if you knew of – to provide a patent attorney with references? A: Yeah, if – if the patent attorney indicated to me he needed some references, and described to me what it constituted – you know, what he was looking for, I would have certainly given him everything I had, yeah.”); *see also id.* 146:13-15 (“My duty was to turn over any material that my prosecuting attorney told me was required by law.”); *id.* at 149:10-13 (“... I did not expect the attorney to tell me which papers to give. I expected the attorney to give me legal guidance as to what I required to turn over.”).

81. During the time of prosecution of the ’633 Patent, all prosecution matters were handled by outside counsel. *See* Ken Waite Dep. Tr. at 28:2-5. Mr. Glen Kellett, the prosecuting attorney for the ’633 Patent, testified that his typical practice was to inform applicants of their duties of disclosure. Kellett Dep. Tr. at 30:7-19. Mr. Kellett also testified that he was aware of his duties as a prosecuting attorney and had he received or been aware of prior art material to patentability, he “would likely have submitted it.” *Id.* at 13:14-14:13; 33:14-16. Mr. Kellett added that he was not aware of prior art references material to patentability. *Id.* at 30:5-6. There is thus no evidence that Dr. Cooper, Mr. Kellett, or anyone else intentionally withheld relevant or material information from the USPTO. Certainly, that is not the single most reasonable inference drawn from the evidence.

82. ST attempts to raise the specter of deceptive intent with allegations that the applicants made statements to the USPTO that effectively misrepresented the prior art. Specifically, Dr. Lipkin takes issue with statements about combining silicon art with silicon carbide art, *e.g.*, “that no one of ordinary skill in the art would combine Ono or Zeng with Kumar.” *See* Lipkin Report at ¶242. Whether those statements are technically correct or reflect a misrepresentation of the state of the art are questions for the technical expert Dr. Shanfield, and I do not offer any opinion on the accuracy of those statements. Indeed, I understand that whether implementations in silicon can be transferred to silicon carbide is a disputed issue.

83. In any event, there is sufficient evidence in the record for the trier of fact to determine that the statements concerning the prior art do not rise to the level of intent to deceive in large part because the examiner pushed back on those statements. As ST’s expert noted in her report, the examiner was not persuaded by the argument. *See* Lipkin Report at ¶246. And in the end, the examiner allowed the claims not based on the use of silicon carbide, but on the remainder of the claim limitations—as Dr. Lipkin calls it, “the specific layout/topological configuration.” *Id.* at ¶251. Even after the examiner pushed back on the arguments, the applicants continued to press the distinction. Such characterizations about the prior art more properly are considered advocacy rather than evidence of intent to deceive. Indeed, applicants routinely attempt to distinguish the prior art, and if differences in opinion about the characterization were enough for deceptive intent, applicants would cease making such characterizations to avoid creating a potential inequitable conduct issue. The USPTO would like a robust record and the back and forth between applicants and examiners is important for creating that record.

84. This is the outcome that *Therasense* was designed to curtail. As a result of constant and often boilerplate inequitable conduct allegations, which was usually combined with a “kitchen

sink” approach where those who prosecute patents are attacked for every single statement they make during prosecution, patent applicants in my experience are now hesitant to explain the relevance of references to their claims. Just as in this case, such explanations over long and complex prosecution histories are frequently taken out of context and amplified to try to establish a misrepresentation was made.

85. ST may attempt to rely on the absence of an IDS as intent to deceive. As I explain below, an IDS is not required, and the absence of an IDS is not dispositive of any kind of breach of the duty of candor, good faith, or disclosure. Mr. Kellett testified that the absence of an IDS is “not common but not unheard of.” Kellett Dep. Tr. at 24:9-15.

86. Furthermore, in my view, the absence of an IDS is not evidence of any intent to deceive for two reasons. First, the examiner himself performed several searches as reflected by the EAST search history and raised several pieces of prior art over the course of a robust prosecution. The examiner was not blindly relying on the applicants to provide prior art. Second, if there was an intent to deceive the USPTO, applicants could have filed an IDS with hundreds of references in an effort to obscure the most salient references. In short, the absence of an IDS is not evidence of inequitable conduct.

#### **B. No Breach of Duty of Candor, Good Faith, or Disclosure**

87. The duties of candor, good faith, and disclosure as explained above, “include[s] a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section.” 37 C.F.R. §1.56(a).<sup>6</sup> Thus, mere knowledge is not enough, and the

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<sup>6</sup> While stated separately, courts often discuss (or “lump”) these duties together given their relatedness. *See, e.g., In re Queen’s University at Kingston*, 820 F.3d 1287, 1301 (Fed. Cir. 2016) (quoting the MPEP, “[e]ach individual associated with the filing and prosecution of patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability.”); *Exergen Corp. v. Wal-Mart Stores, Inc.*, 575 F.3d 1312, 1329 (Fed. Cir. 2009) (same); *Intermec*



applicant is not charged with complete knowledge and awareness of everything in the prior art. The information must be known to the individual and must be material to patentability. Section 1.56(a) expressly states, “There is no duty to submit information which is not material to the patentability of any existing claim.” In this case, the individuals involved in prosecution of the ’633 Patent did not breach their duties of candor, good faith, and disclosure to the PTO. To the contrary, as cited above, both Dr. Cooper and Mr. Kellett testified that they would have submitted any information that they considered material to patentability.

88. Given the lack of an expert report, I am left to rely on discovery responses and allegations in ST’s Answer to essentially guess at what arguments ST might make in support of any contention that the applicants breached their duties of candor, good faith, and disclosure. I will note that the allegations in an Answer are not themselves evidence, and ST’s allegation that a certain publication or patent is material does not make it so. Nor does merely labeling it as “material” in an interrogatory response.

89. In its Answer, ST alleged that “the Patentees’ misrepresentations regarding similar structures in silicon carbide, as well as the non-disclosure of material prior art, were a breach of the duty of candor and good faith because at least Dr. Cooper knew that such information was material to the application that ultimately issued as the ’633 Patent.” Answer at ¶98. But there is no evidence that Dr. Cooper understood or appreciated that any of the publications cited by ST were “material” to patentability as set forth in 37 C.F.R. §1.56. Indeed, as to all but one of the references disclosed in ST’s Answer, I have seen no evidence that any of those references is

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*Techs. Corp. v. Palm Inc.*, 738 F. Supp. 2d 522, 560 (D. Del. 2010) (“The duty of candor, good faith, and honesty includes the duty to submit truthful information and the duty to disclose to the PTO information known to the patent applicants or their attorneys which is material to the examination of the patent application.”). Accordingly, for purposes of this report, I discuss these duties together as well.

material. Dr. Lipkin did not address them. As to the references that Dr. Lipkin does address, there is no evidence that Dr. Cooper, Mr. Kellett, or anyone involved in prosecution of the '633 Patent considered them to be material. Even with knowledge, without materiality, there can be no breach of the duties of candor, good faith, and disclosure.

90. To the extent that ST relies on the absence of an IDS, I note again that absence of an IDS is not evidence of breach of a duty of candor, good faith, and disclosure. And at least one court has found that the failure to file an IDS does not *ipso facto* form any basis for an intent to deceive. *See TiVo Inc. v. Verizon Communication, Inc.*, 2011 WL 13134426, \*5 (E.D. Tex. Sept. 7, 2011). In that case, the examiner reminded the applicant about how to file an IDS, and yet the applicant did not file one. The court did not credit the absence of the IDS as evidence of intent to deceive.

91. Finally, as discussed above, the applicant's arguments in response to the Office Actions against combining silicon art with silicon carbide art are not inconsistent with the duties of candor, good faith, and disclosure. First, there is no evidence that Dr. Cooper knew about this argument before it was made by the prosecuting attorney or even confirmed in the draft response before it was filed in the USPTO. Second, the examiner did not agree with the argument. Third, as explained by Mr. Kellett, the argument was that "one of ordinary skill in the art would not simply substitute silicon carbide ... for a silicon substrate." Kellett Dep. Tr. at 49:19-22; *see also id.* at 53:9-14 ("I was saying that it would not be obvious to simply substitute a silicon carbide into those references because those features lower the blocking voltage, which is what -- which is one of the benefits you get from silicon carbide.")).

92. During his deposition, Mr. Kellett was questioned on whether disclosure would be required if Dr. Cooper had materials showing use of silicon designs in silicon carbide. *Id.* at 54:2-

11. Mr. Kellett disagreed that disclosure was required because “it’s the additional modification that you have to do to those features to make them – to make them work within – within silicon carbide while maintaining the blocking voltage and a low specific ON resistance, so it’s not a simple substitution, which is what my argument was.” *Id.* at 54:15-21.

93. In short, Mr. Kellett believed his argument to be technically accurate when made, made the argument in good faith, and felt that it was consistent with his duties under §1.56. While I defer to the technical expert on technical issues, given this testimony, the arguments made to the examiner do not appear to provide sufficient evidence for a trier of fact to find any breach of the duties of candor, good faith, and disclosure.